Wochnick, Heather M CIV USN (US)

From: Kito, Melanie R CIV NAVFAC SW
Sent: Thursday, October 14, 2010 19:49
To: Gilkey, Douglas E CIV OASN (EI&E), BRAC PMO West; Macchiarella, Thomas L CIV OASN (EI&E), BRAC PMO West; Callaway, Rex CIV NAVFAC SW; Cummins, John M CIV NAVFAC SW
Subject: FW: Insurance related GFPR costs Parcel B and G 10_12-10
Attachments: Parcel B and G GFPR MLC 10-12-10_Ins Option 2 Navy.pdf; parcel B G Ins Option draft 10_12_10 to Navy.pdf

FYI,

The City would like to insure up to (b) (5), (b) (4) worth of work, mostly due to cost to cover the entire parcels.

Melanie

-----Original Message-----
From: Rathnayake, Dharme [mailto:DRATHNAYAKE@mactec.com]
Sent: Tuesday, October 12, 2010 20:24
To: Forman, Keith S CIV OASN (EI&E), BRAC PMO West; Kito, Melanie R CIV NAVFAC SW; Amy Brownell; Hendry, Ray; RBrandt@Geosyntec.com; Gregory_Schilz@aon.com; sreinis@treadwellrollo.com; JAustin@Geosyntec.com; Fenton, Jeffery; Ang, Alfonso
Cc: cynthia.evanko@aon.com; Tim.Mower@tetratech.com; Hall, Steve; Andrea Bruss; jeff.giangiuli@calibresys.com; Tiffany Bohee; Smallbeck, Donald; stephen.proud@lennar.com
Subject: RE: Insurance related GFPR costs Parcel B and G 10_12-10

Keith and Melanie,

Thanks for coming to our office today and go over the Insurance presentation.

As discussed here is the (b) (5), (b) (4) GFPR estimate that we will be submitting to Insurance markets for your information. We did adjust the SVE and GW monitoring numbers as we discussed last week. Note that MACTEC continues to review and revise these numbers before we submit to Insurance (by this Friday) and this amount is higher primarily due to soil cover/grading/storm water costs which are outside of ETCA grant.

Let me know if you have any input on this by Thursday.

Thanks,

Dharme

MACTEC

415-987-5186 cell

From: Rathnayake, Dharme
Sent: Monday, October 11, 2010 4:03 PM
To: Forman, Keith S CIV OASN (EI&E), BRAC PMO West; melanie.kito@navy.mil; 'Amy Brownell'; Hendry, Ray; 'RBrandt@Geosyntec.com'; 'Gregory_Schilz@aon.com'; sreinis@treadwellrollo.com; JAustin@Geosyntec.com; Fenton, Jeffery; Ang, Alfonso
Cc: 'cynthia.evanko@aon.com'; Tim.Mower@tetratech.com; Hall, Steve; Andrea Bruss; jeff.giangiuli@calibresys.com; 'Tiffany Bohee'; Smallbeck, Donald; 'stephen.proud@lennar.com'
Subject: Insurance presentation planning rehearsal meeting 1 PM to 5 PM PST Tuesday 10_12_10 MACTEC

As discussed this email to confirm our meeting tomorrow to go over the Insurance presentation with respect to Parcel B and G GFPR.

Location: MACTEC office, 28 Second Street, Suite 700, San Francisco, CA 94105

Phone - (415) 543-8422 Office or (415) 987-5186 Dharme Cell

(use the access key pad at building entrance to get building access)

Time: 1 PM to 5 PM PST on Tuesday 10/12/10 (tomorrow)

We will review presentation outline, completed slides, add/modify additional slides as needed with respect to the upcoming Insurance meeting (date TBD).

I have assumed that the people in the cc list on this email will not be attending the meeting in person, but will likely be calling in. Here is the calling number-

(b) (5), (b) (4), (b) (6)

Please confirm if you are coming to the meeting or planning to call.

Please also check the name list to make sure I have included everyone who need to be included for this meeting. Note that our goal is to have another follow up full rehearsal date prior to the Insurance Meeting date so there is no need for a larger group to attend tomorrow.

I will send the presentation outline/draft PPT later today.

Thanks,

Dharme Rathnayake PE

MACTEC PM

GFPR Cost Estimate
Prepared By MACTEC
"Most Likely" Quantity Estimate Option 2
Parcel B
(10/12/2010)

WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
1 0	Project Planning and Scheduling:					Tasks to be completed by MACTEC as part of the ETCA
	Scheduling and Progress Reporting: Developing and maintaining a master project schedule and monthly progress reports.				This scope assumes project planning and scheduling for 10 years.	
		Schedule updates	ea	80	Monthly for the 1st 5 yrs; quarterly for years 6 through 10.	
		Reports	ea	80	Monthly for the 1st 5 yrs; quarterly for years 6 through 10.	
	Database Development and Maintenance: Development of a chemistry database to store all analytical data					
		SQL Database setup	ea	1	To develop from database furnished by the Navy	
		SQL Database maintenance	ea	1	Maintain database for 10 yrs.	
	Administrative Record Support	Periodic deliverable requests	ea	1	Respond to requests to provide additional documents to the Navy and/or their contractors.	
2 0	Soil Gas Survey					Tasks will be conducted by the Navy with results and conclusions presented in the RD
	Parcel-wide soil gas survey for VOCs. Excludes radiological ARIC portion of IR7/18.				t is assumed that the Navy will have remedies in place to address any source of soil gas within 100 feet of Parcel B boundary prior to transfer.	
	Work Plans	Risk Methodology Work Plan			Requires interim meetings and negotiations with regulators to develop the risk method.	
		Soil Gas Survey Work Plan				
	Soil Gas Survey Implementation:	Geoprobe mob/demob, concrete coring, sampling, TO-15 analysis, geotech samples			Where exceedances occur, follow-up sampling will take place to define the extent (See Task 5.3).	
	Soil Gas Survey Report					
	Development of Soil Gas Action Levels	Memorandum			Will be cited in the Remedial Design (RD); Memorandum will include what type of mitigation measures will be necessary based on detected soil gas levels	It is assumed that the Navy's Tech Memo will right-size the ARIC

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3 0	Remedial Design					Tasks will be conducted by the Navy
	Soil hot spot excavation, Soil vapor extraction system expansion & operation at Bldg 123; Soil cover concepts; Soil vapor control concepts; groundwater remediation through in-situ injection with Polylactate; Revetment construction at BOS-3 and part of BOS-1 in IR-23; land use controls, and Long-term groundwater monitoring.				Detailed soil cover and soil vapor control design will be completed under the ETCA.	Modifications to soil cover and soil vapor control will be acomplished in the RAWP under ETCA
3.1	Pre-Design Field Work	Mobilization, concrete coring, soil samples, soil gas samples, baseline soil gas samples			Navy to confirm need for any pre-design field work.	This task will be conducted by the Navy as necessary to support the preparation of the RD
	SVE Well Location Design for Bldg 123:	Collect/analyze groundwater samples				This task will be conducted by the Navy as necessary to support the preparation of the RD
	Polylactate Injection Design for IR-10A Plume:					
	Revetment Design / Soil Cover Design:	Topographic and hydrographic surveys, geotechnical evaluation			Navy to complete pre-design work necessary to prepare the RD for the revetment and soil cover. Soil cover design options will include hardscape options that will be components of the future development structures and infrastructure. Navy to conduct geotech analysis	
3 2	Remedial Design Documents				Confirmation that Chromium VI in groundwater at IR Site 10 will not require treatment will be accomplished with BCT approval of the RD package for Parcel B.	Task will be in the Navy RD
	Includes design for all the remedial elements including engineering controls and sheet pile wall for sea wall protection.	Basis of design, specifications and drawings				Modifications to soil cover and soil vapor control will be acomplished in the RAWP under ETCA
	Institutional Controls (ICs)					
	Also includes the preparation of construction documents	LUCs/CRUPs				Task will be in the Navy RD
		Deed Restrictions		TBD		Task to be completed within the RAWP as part of the ETCA
		RMPs	ea	2	Includes Pre-RACR and Post-RACR RMPs	This task to be prepared by SFRA for the Navy to incorporate into the RD

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
4 0	Remedial Action Work Plan (RAWP)					Tasks to be completed by MACTEC as part of the ETCA
	RAWP inclues the following: Soil vapor extraction expansion & operation at Bldg 123; In-situ injection with Polylactate at IR-10A; revetment construction at BOS-3 and part of BOS-1 in R-23; Soil covers; Soil vapor engineering controls; Long-Term Groundwater Monitoring Plan.	Includes construction related work plans (e.g., SAP, QAPP, HASP, Dust Control Plan, Site Security Plan, Site Radiation Plan, Storm Water Pollution Prevention Plan)	ea	1	GFPR tasks except hot spot excavation and any TPH work per the CAP. Soil cover and soil gas design	
5 0	Remedial Implementation					
5.1	Hot Spot Soil Excavations	Data Submittal			The Navy will prepare the RAWP, conduct excavation, conduct confirmation sampling, and prepare a RACR presenting the final condition of the site.	This task will be conducted by the Navy as necessary to support the preparation of the RD
5 2	Soil Vapor Extraction System Expansion & Operation				The Building 123 SVE system is to be expanded and operated per the ROD	Tasks to be completed by MACTEC as part of the ETCA
	The SVE system in Bldg 123 is to be expanded and operated per the ROD. The existing system covers approximately 11,350 sq. ft. with 10 ft unsaturated zone. The Phase III SVE Treatability Study (TS) recommends additional extraction wells be installed to reduce TCE concentrations at the west end of the building. Duration of operation is not specified or costed in the ROD but the Phase III SVE TS recommends running the system in a pulsed mode. MACTEC concurs, given asymptotic conditions have already been reached for most extraction wells within the system. Running the system effectively for much longer than one year is not anticipated.					

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
	•Site Preparation Activities	Install extraction wells (4 in)	ea	3	Additional extraction wells as per the Navy Internal Draft RD	
		Install Vapor Mon. well pairs (2 in)	ea	4		
	Mark proposed well locations, / Dig-Safe coordination;					
		GPS survey - update system layout	ea	1		
	Install new wells for system expansion; Perform GPS surve					
	Permitting.					
		GAC Vessels-1,000 lbs ea	ea	2	Equipment procurment; well head construction; piping connections; erection of emissions stack; power hookup	
	•Retrofit and Construction					
	Equipment procurement; well head construction; piping	1000 gal poly transfer tank	ea	1		
	connections; emissions stack erection; power hookup	Blower Trailer	ea	1	Assumes existing blower will be used.	
		Piping (2 to 6 in)	lf	200		
		Electrical connection	ea	1		
		meter/circuit breaker panel	ea	0		
		Collect baseline soil gas samples	ea	69	Pre-SVE soil gas sampling as part of the parcel-wide soil gas survey	
	•System Shakedown					
	Collect baseline analytical and PID measurements in new well points; establish injection well / extraction well pattern layout.				From new SVE wells (3 wells) & VM wells (4 wells [2 well pairs]) & 10% dup; existing wells sampled under predesign	
		Remedial Action soil gas sampling event	event	2	System pulsed for 1-yr period. Running the system for much longer than one year is not anticipated. 40 samples per event (select new and existing SVE/VM wells, GAC mid and effluent locations plus 10% dup)	
	•Operations, Maintenance and Reporting					
	System pulsed for 1-yr period; After removal of bulk mass of contaminant within new extraction area (assume 2 mo), commence with pulsed operation. Assume 2 wks on and 3 wks off. Gas samples measured by P D each sampling event and off-site analyses every other sampling event.	PID gas measurement event	event	9	62 PID samples per event (53 existing + 7 new + GAC mid and effluent)	Number of samples and Sampling Freq. assumed. Not specified in DF DBR
	Reporting: Semi-annual (mid-treatment and final tech-memo)	Tech Memos	ea	2	Data Tech memos (internal draft & final)	
	•System Decommissioning					
	Remove and dispose of off-gas carbon absorbers	SVE/VM well decommissionin	ea	60	Well decommissioning, GAC disposal, equipment decommissioning	
	Remove piping / grout & decommission wells	GAC disposal	lbs	2000		
	Salvage SVE trailer for continued use elsewhere	Equipment decommissioning	ea	1		

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5 3	VOC Groundwater Remediation					Tasks to be completed by MACTEC as part of the ETCA
					Navy to present in-Situ Polylactate injection to treat the IR10A VOC plume as per the ROD as an enhanced bioremediation remedy in the RD. Active enhancement will be followed by a natural attenuation phase over an indefinite period of time.	
	The IR-10A (VOC) plume is to be treated by injection of lactate per the ROD. The ROD suggests a single injection within a localized hot zone will achieve remedial objectives.					
	•Site Preparation Activities Mark proposed injection locations/Dig-Safe coordination; Collect baseline groundwater parameters	Sample existing wells	ea	11		
	•Polylactate Injection Round 1	Mobilization	ea	1		
	Perform 1st round of injections; followed by GPS location survey.	Advance drive points	ea	43	Injections within an approximate 7,500 sq. ft. plume area.	Per DF DBR
		Cores thru floor slabs	ea	12	Assumed not to readily coincide with cores for SVE or soil gas survey.	Per DF DBR Fig. 16
		GPS survey - document pts	ea	1		
	•Process Monitoring Round 1					
	Collect post injection groundwater samples	Collect and analyze samples from existing wells	ea	13	(2) Collect at 4 weeks following Round 1 Injection (11 wells plus QA samples for 1 round); Sampling will be combined with basewide/long-term groundwater monitoring program to the greatest extent possible.	Number of wells per DF DBR Assumed sampling freq. 11 samples + 2 QA/QC
	Two years of Monitored Natural Attenuation (MNA) as part of long-term monitoring					
	Prepare Tech-Memo	Tech-memo (Internal Draft & Final)	ea	1		
	Prepare Annual Tech-Memos	Tech-memo (Internal Draft & Final)	ea	1		
	Post-Verification Soil Gas Sampling:	Mobilization		1		Assumed task and not specified in DF DBR
		Concrete coring		20		
		Sample survey points		43	Focus on IR10 injection/SVE remedial areas and Parcel B/C boundary area in the vicinity of Bldg 134.	

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5.4	Durable Cover				1.68 million square feet of cover is required at Parcel B. Area is based on the existing development excluding radiological impacted IR-07/18. The cover will consist of a design consistent with the RD specifications and as documented in the Remedial Action Plan. Existing Navy buildings/building foundations will be abated and demolished by others prior to construction of the durable cover.	Tasks to be completed by MACTEC as part of the ETCA
	•Soil Cover Construction	Cover Area	sq ft	1.68M	2 feet of soil cover over the entire parcel	
	•Asphalt Cover Construction	Cover Area	sq ft	0	Per draft final RD, Appendix A	
	•Drainage Design	Cover Area	ea	1	Assumes above ground drainage pr DF DBR.	
	•Final Cover maintenance at Year 10	Cover Area	ea	1	Assumes 2% cost of initial durable cover installation for final Year 10 maintenance.	
	•Shotcrete Cover Construction	Cover Area	sq ft	0	Per Draft RD, Appendix B	Removed in DF DBR, but not added to soil cover
	•Steel Plate Installation		ea	1	8 feet by 40 feet steel plate and fill per Navy design	Removed in DF DBR. RTCs indicates that sheet pile will be replaced by Steel Plate/Fill
5 5	Soil Vapor Control Technology				Navy to determine the VOC ARIC. SFRA to provide the Navy with vapor mitigation options to incorporate into development plans. Navy to provide engineering control options in the RD.	Tasks to be completed by MACTEC as part of the ETCA
	Soil Vapor Mitigation Barrier	Area Needing Vapor Mitigation Barrier	sq ft	NA	Not Insurable	Assume Spray applied impermable barrier
	Vapor Control	Area Needing Engineering Controls	sq ft	NA	Not Insurable	Assume passive venting
	•1 Round of Performance Monitoring Post-Construction		events	NA	Not Insurable	
5 6	Groundwater Remediation - Organo Sulfur					Tasks will be conducted by the Navy if required by the regulatory agencies

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5.7	Long-Term Groundwater Monitoring				Navy to design long-term groundwater monitoring plan and present in the RD.	Tasks to be completed by MACTEC as part of the ETCA
	•Field Work a) Years 1 semi-annual monitoring during remedial implementation This is the level of effort for groundwater monitoring after property transfer, and during implementation of the remedy. The semi-annual monitoring program conducted during remedial implementation will Include the following wells: 1) 8 wells that are part of the proposed monitoring network Assumes that the remedy will be implemented in year 1 and that 5 of the wells, located in the IR10 plume and included in the monitoring network, will be monitored for 1 year as part of the remedy (under Task 5 3) and will not be included in the semi-annual groundwater monitoring program in year 1.	Includes 2 wells for VOC monitoring, 1 well for VOC/Metal monitoring, 4 wells for IR Site 26 Mercury Monitoring, and 1 additional well for Bay Margin Metals Monitoring. 28 GW wells for water levels only. Samples analyzed per the RAMP	events	2	Long-term monitoring is required in addition to the process monitoring for groundwater remedial actions. Navy's proposed semi-annual sampling program will be performed during remedy implementation. Monitoring program does not include wells within IR7/18 ARIC. event = field sampling event; water level monitoring and collection and analysis of groundwater samples from monitoring wells.	
	a) Years 2 semi-annual monitoring post remedial implementation This is the level of effort for groundwater monitoring after property transfer, and post remedy. The semi-annual monitoring program conducted during remedial implementation will Include the following wells: 1) 13 wells that are part of the proposed monitoring network	Includes 7 wells for VOC monitoring, 1 well for VOC/Metal monitoring, 4 wells for IR Site 26 Mercury Monitoring, and 1 additional well for Bay Margin Metals Monitoring. 28 GW wells for water levels only. Samples analyzed per the RAMP	events	2	event = field sampling event; water level monitoring and collection and analysis of groundwater samples from monitoring wells.	
	b) Years 3-5 Semi-Annual Monitoring Assumes that 4 wells are dropped from the monitoring network and the VOC/Metal well is only and will beanalyzed for metals. Program would include 8 wells that are part of the proposed monitoring network (including 5 monitoring wells that were within the IR10 plume and 3 Bay Margin wells monitoired for metals [including 1 well for VOC monitoring]).	Includes 5 wells for VOC monitoring and 3 wells for Metals. 28 GW wells for water levels only. Samples analyzed per the RAMP	events	6	Includes 6 semi-annual monitoring events	

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
	c) Years 6-10 annual sampling Assumes 3 VOC montoring wells are dropped and only 3 metals montoring wells remain as part of the proposed monitoring network. 28 wells for water levels only.	Includes 3 wells for metals. 28 GW wells for water levels only. Samples analyzed per the RAMP	events	5	Includes 5 annual monitoring events	
	•Data Management/Evaluation/Validation/Reporting					
	a) Data Validation For each sampling event, validate chemical analytical data and generate a Quality Control Summary Report. Level III validation will be performed on 80% of the samples and Level IV validation will be performed on 20% of the samples	Validate chemical analytical data and generate data validation summary report.	events	15	event = field sampling event. Includes 10 semi-annual, and 5 annual monitoring events	
	b) Data Management For each sampling event, the water level and chemical analytical data and data validation qualifiers will be loaded into a SQL database	Load data from groundwater monitoring program	events	15	event = field sampling event. Includes 10 semi-annual, and 5 annual monitoring events	
	c) Data Evaluation For each sampling event, the groundwater elevation and chemical analytical data will be complied in tables and figures, evaluated and interpreted for presentation in applicable semi-annual and annual reports	Compile and evaluate data from groundwater monitoring program	events	15	event = field sampling event. Includes 10 semi-annual, and 5 annual monitoring events	
	d) Groundwater Monitoring Reporting Prepare reports presenting and interpreting data collected for each semi-annual and annual event. Draft and Draft Final versions of each report will be generated.	Prepare groundwater monitoring reports				
	Semi-Annual Reports		ea	5	Prepare one semi-annual report per semi-annual event Years 1-5	
	Annual Reports		ea	10	Prepare one annual report per year Years 1-10	
	•Meetings					
	Attend program technical meetings with agencies	Agency meetings	ea	13	Two meetings per year for the first three years and 1 meeting per year there after.	

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5 8	Monitoring Well Abandonment/Extensions/ and Rehabilitation					Tasks to be completed by MACTEC as part of the ETCA
	•Well Abandonment Abandon remaining wells at end of groundwater monitoring program	Abandon wells	well	11	Navy has started well abandonment Abandon all wells that will not be sampled beyond year 10. Includes R26MW50A.	
	•Well Rehabilitation Re-habilitate wells as necessary anticipating that some may have filled with sediment or other obstructions.	Redevelop wells as needed - 5 events - 3 wells per event	events	2	Number dependent on Navy's long-term monitoring plan Assume that one field event will be performed every 5 years to redevelop the wells (year 5 and 10)	
	•Well Extensions	Well extensions	well	41	41 wells (13 wells monitoring program, 28 water level only)	
5 9	5-Year Reviews Support (2013 to 2020)				(1)	Task to be completed by MACTEC as part of the ETCA
	•Document Support for Preparation of 5-Year Review Reports by NAVY	Document Support	ea	2	Navy to complete in years 2013 and 2018. Next version would be due in 2023 which is beyond the 10 year time line. Minimal document support effort is expected for this task.	
5.10	TPH Program					Task will be conducted by the Navy
5.11	Shoreline Revetment (BOS 3 [R-26] & BOS 1 [IR-23])					Tasks to be completed by MACTEC as part of the ETCA
5.11.1	•Site Preparation Activities	Permit applications	ea	1	Navy wil have completed the removal of the Rad ARIC from Parcel F	
5.11 2	•Riprap Construction Overall length to be determined in the RD. Stone size used to build the revetment will be determined in the RD	Riprap	cy	8,787		Per FD DBR and TT email 9/28
		Crushed Rock	cy	1,509		
		Filter Fabric	sy	15,133		
		Soil Relocation	cy	800	Assume all can be reused onsite. No offsite disposal of radioactive material is included.	Per FD DBR page 32. However, diff. between cut and fill in Appendix I is 1,364 cy.
		Debris Disposal	cy	1,700	Assume this is non-hazardous material.	Per FD DBR page 32

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	•Radiological Screening		days	25	Excavated sediments for revetment construction are to be field screened for radiological contamination. It is assumed that excavated sediments will be suitable for reuse onsite prior to placement of durable cover. Any radiologically contaminated material willl be stockpiled at a mutually agreeable location.	
5.11 3	•Integration with Soil Cover -To be done concurrently with revetment construction.		ea	1		
5.11.4	•Operations and Maintenance	Monitoring effort for 10 years	ea	1	O&M for the revetment consists of annual walk-over inspections. The structure will also be surveyed both above and below water at year 10. Revetment repairs are planned one time over the 10-year period.	
5.12	Implementation of Institutional Controls	Enforce Deed Restrictions	ea	1	The duration for implementing ICs is expected to be in perpetuity in accordance with the LUCIP presented in the RD.	Tasks to be completed by MACTEC as part of the ETCA
		Annual Inspections/Reporting	ea	1		
		Risk Management Oversight	ea	1	Activities associated with the Pre-RACR and Post RACR RMP related inspections.	
		O&M of non-radiological impacted IR 7/18 area	ea	1	One LUC P post RACR. Approach for update of LUCIP will be defined in the LUC RD. IR 7/18 area O&M activities covered under a separate agreement.	
6 0	Final Remedial Action Completion Report (RACR)					Tasks to be completed by MACTEC as part of the ETCA
	•Final Remedial Action and Site Closure documentation	Report	ea	1	The RACR has been budgeted as one report. However consideration has been given to the remedial components being completed at different times, which will necessitate submission of up to 7 possible addenda to the RACR for the seven major remedial components (SVE, post-remedial soil gas survey, groundwater remediation, capping, revetment construction and groundwater monitoring)	The soil excavation RACR to be completed by the SFRA on the basis of the Navy Tech Memo (see WBS task 5.1)
7 0	Public Involvement					Tasks to be completed by MACTEC as part of the ETCA
7.1	•Development of a Community Involvement Plan (CIP)	Community Involvement Plan	ea	0	No CIP is listed in the TSRS	
7 2	•Fact Sheets	Fact Sheets	ea	15	2 fact sheets per yr for yrs 1-5 (10 fact sheets); 1 fact sheet per yr for yrs 6-10 (5 fact sheets). It's assumed that Fact Sheet printing and distribution will be performed by the SFRA.	
7 3	•Citizen Advisory Committee (CAC) meetings	CAC Meetings	ea	32	6 meetings per yr for yrs 1-3 and 2 meetings per yr for yrs 4-10	

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8 0	Regulatory Oversight					Tasks to be managed by SFRA as per the ETCA and completed by the BCT as per the Amended FFA
		Estimated cost to be provided by the regulatory agencies.	TBD	TBD	Not Insurable. Paid directly to agencies by SFRA. (1)	
9 0	Insurance					Insurance to be procured by SFRA as specified in the ETCA
		Includes Cost Cap & PLL Insu	TBD	TBD	Coverage duration is expected to be 10 years; (5)	
10.0	ETCA Administrative Support					Tasks to be completed by the SFRA as part of the ETCA
		SFRA ETCA Oversight	TBD	TBD	Not Insurable. '(1)	
11.0	Risk Assumption					Tasks to be completed by SFRA/Lennar/Mactec as defined in the ETCA
			TBD	TBD		

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WBS Task /Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks

Notes:

(1) Concurrent activity with Parcel G work.

ARIC = Area Requiring Institutional Controls

BCT = BRAC Cleanup Team

BRAC = Base Realignment and Closure

CAC = Citizen Advisory Committee

CAP = Corrective Action Plan

CIP = Community Involvement Plan

CRUP = Covenant to Restrict Use of Property

cy = Cubic Yards

DBR = Design Basis Report

ea = Each

ETCA = Early Transfer Cooperative Agreement

GAC = Granular Activated Carbon

GFPR = Guaranteed Fixed Price Remediation

GW = groundwater

HASP = Health & Safety Plan

IC = Institutional Controls

IR = Installtion Restoration

LUCs = Land Use Controls

M = Million

MNA = Monitored Natural Attenuation

NA = Not Available

O&M = Operation and Maintenance

PID = Photoionization Detector

QAPP = Quality Assurance Project Plan

RA = Remedial Action

RACR = Remedial Action Completion Report

RAMP = Remedial Action Monitoring Plan

RAWP = Remedial Action Work Plan

RD = Remedial Design

RMP = Risk Management Procedures

ROD = Record of Decision

RTCs = Response to Comments

SAP = Sampling & Analysis Plan

SFRA = San Francisco Redevelopment Agency

SQL = Structured Query Language

SVE = Soil Vapor Extraction

sy = Square Yard

TBD = To be determined

TCE = Trichloroethylene

TMSRA = Technical Memorandum in Support of a Record of Decision Amendment

TO = Toxic Organic

TPH = Total Petroleum Hydrocarbons

TS - Treatability Test

TSRS = Technical Specifications and Requirements Statement

TT = TetraTech

VM = Vapor Monitoring

VOC = Volatile Organic Compound

WBS = Work Breakdown Structure

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
1.0	Project, Planning and Scheduling:					Tasks to be completed by MACTEC as part of the ETCA
	Scheduling and Progress Reporting: Developing and maintaining a master project schedule and monthly progress reports.	Schedule updates Reports	ea ea	80 80	This scope assumes project planning and scheduling for 10 years. Monthly for the 1st 5 yrs; quarterly for years 6 through 10. Monthly for the 1st 5 yrs; quarterly for years 6 through 10.	
	Database Operation and Maintenance: Operation and maintenance of a chemistry database to store all analytical data	SQL Database setup SQL Database maintenance	ea ea	1 1	To develop from database furnished by the Navy Maintain database for 10 yrs.	
	Administrative Record Support	Periodic deliverable requests	ea	1	Respond to periodic requests to provide additional copies of deliverables to the Navy and/or their contractors.	
2.0	Soil Gas Survey					Tasks will be conducted by the Navy with results and conclusions presented in the Completion Report
	Parcel-wide and at discrete suspect areas for VOCs.				t is assumed that the Navy will have remedies in place to address any source of soil gas within 100 feet of the Parcel G boundary prior to transfer.	
	Work Plans	Risk Methodology Work Plan Soil Gas Survey Work Plan			Requires interim meetings and negotiations with regulators to develop the risk method.	
	Soil Gas Survey Implementation: Soil Gas Survey Report	Geoprobe Mob/Demob, concrete coring, sampling, TO-15 analysis, geotech samples			Where exceedances occur, follow-up sampling to define the extent (See Task 5.4).	
	Development of Soil Gas Action Levels .	Memorandum			Will be cited in the Remedial Design (RD); Memorandum will include what type of mitigation measures will be necessary based on detected soil gas levels	

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
3.0	Remedial Design				Detailed soil cover and soil vapor control design will be completed in an Amended RD under the ETCA.	Tasks will be conducted by the Navy
	Soil hot spot excavation; Soil cover concepts; Soil vapor control concepts; landuse controls, and long-term groundwater monitoring. Conclusion of the ZVI Treatability Study to state that the need for additional groundwater remediation is not necessary. Navy this summary as part of the RD				It is assumed that the following components have been or will be completed by the Navy prior transfer: Removal of the Pickling and Plating Sump and associated soils as determined by confirmation sampling; Hot spot excavations; removal of all soil stockpiles as per the ROD; and completion of all radiological sampling and remediation.	Modifications to soil cover and soil vapor control will be acomplished in the RAWP under ETCA
	Pre-Design Field Work				Navy to confirm need for any pre-design field work	This task will be conducted by the Navy as necessary to support the preparation of the RD
	Soil Cover Design	Topographic survey and geotechnical evaluation			Navy to identify performance criteria for site cover design Navy to conduct geotech analysis	
	Remedial Design Documents					Task will be in the Navy RD
	Includes design for all the remedial elements including engineering controls.	Basis of design, specifications and drawings				Modifications to soil cover and soil vapor control will be acomplished in the RAWP under ETCA
	Institutional Controls (ICs) Also includes the preparation of construction documents	LUCs/CRUPs				Task will be in the Navy RD
		Deed Restrictions		TBD		Task to be completed within the RAWP as part of the ETCA
		RMPs		2	Includes Pre-RACR and Post-RACR RMPs	This task to be prepared by SFRA for the Navy to incorporate into the RD
4.0	Remedial Action Work Plan (RAWP)					Tasks to be completed by MACTEC as part of the ETCA
	RAWP includes the following: soil covers; Soil vapor engineering controls; and Long-Term Groundwater Monitoring Plan.	Includes construction related work plans (e g., SAP, QAPP, HASP, Dust Control Plan, Site Security Plan, Site Radiation Plan, Storm Water Pollution Prevention Plan)	ea	1	ETCA tasks except hot spot excavation and any TPH work per the CAP.	

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5.0	Remedial Implementation					
	Hot Spot Soil Excavations	Data Submittal			The Navy will prepare the RAWP, conduct excavation, conduct confirmation sampling, and prepare a Tech Memo presenting the final condition of the site. SFRA will prepare the RACR for this activity.	This task will be conducted by the Navy as necessary to support the preparation of the RD
	Groundwater Remediation				The conclusion of the ZVI Treatability Study Report indicates this task may not be necessary.	
5.2.6	Post-Verfication Soil Gas Sampling					Task to be completed by MACTEC as part of the ETCA
		Mobilization		1		Additional task not specified in DF DBR
		Sample survey points		35		
5.3	Durable Cover				1.73 million square feet of cover is required. Area is based on the existing development. The cover will consist of a design consistent with the RD specifications and as documented in the Remedial Action Plan. Existing Navy buildings/building foundations will be abated and demolished by others prior to construction of the durable cover.	Tasks to be completed by MACTEC as part of the ETCA
	•Soil Cover Construction	Cover Area	sq ft	1.73M	2 feet of soil cover over the entire parcel	
	•Asphalt Cover Construction	Cover Area	sq ft	0		
	•Drainage Design	Cover Area	ea	1	Assumes above ground drainage per FD DBR	
	•Final Cover maintenance at Year 10	Cover Area	ea	1	Assumes 2% cost of initial durable cover installation for final Year 10 maintenance.	
5.4	Soil Vapor Control Technology				Navy to determine the VOC ARIC. SFRA to provide the Navy with vapor mitigation options to incorporate into development plans. Navy to provide engineering control options in the RD.	Task to be completed by MACTEC as part of the ETCA
	Soil Vapor Mitigation Barrier	Area Needing Vapor Mitigation Barrier	sq ft	NA	Not Insurable	Assumes Spray applied impermeable barrier.
	Vapor Control	Area Needing Engineering Controls	sq ft	NA	Not Insurable	Assume passive venting
	•1 Round of Performance Monitoring		events	NA	Not Insurable	

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5.5	Long-Term Groundwater Monitoring				Navy to design long-term groundwater monitoring plan and present in the RD.	Tasks to be completed by MACTEC as part of the ETCA
	•Field Work	Includes monitoring well verification/field reconnaissance				
	a) Years 1-2 Semi-Annual Sampling In Years 1-2 collect and analyze groundwater samples from 11 wells semi-annually and collect water levels from 27 additional wells	Samples analyzed per the RAMP	events	4	Event = field sampling event; water level monitoring and collection and analysis of groundwater samples from monitoring wells. Includes 4 semi-annual monitoring events.	
	b) Years 3-5 Semi-Annual Sampling Collect and analyze groundwater samples from 2 wells semi-annually in Years 3-5 and collect water levels from 27 additonal wells.	Samples analyzed per the RAMP	events	6	Event = field sampling event; water level monitoring and collection and analysis of groundwater samples from monitoring wells. Includes 6 semi-annual monitoring events.	
	•Data Validation/Management/Evaluation/Reporting					
	a) Data Validation For each sampling event, validate chemical analytical data and generate a Quality Control Summary Report. Level III validation will be performed on 80% of the samples and Level IV validation will be performed on 20% of the samples	Validate chemical analytical data and generate data validation summary report.	events	10	Event = field sampling event. Includes 10 semi-annual monitoring events.	
	b) Data Management For each sampling event, the water level and chemical analytical data and data validation qualifiers will be loaded into a SQL database	Load data from groundwater monitoring program	events	10	Event = field sampling event. Includes 10 semi-annual monitoring events.	
	c) Data Evaluation For each sampling event, the groundwater elevation and chemical analytical data will be complied in tables and figures, evaluated and interpreted for presentation in applicable semi-annual reports	Compile and evaluate data from groundwater monitoring program	events	10	Event = field sampling event. Includes 10 semi-annual monitoring events.	
	d) Report Preparation Prepare a report presenting and interpreting data collected for each semi-annual event. Draft and Final versions of each report will be generated.	Prepare groundwater monitoring reports				

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
	Semi-Annual Reports Prepare a report presenting and interpreting data collected for each semi-annual event. Draft and Final versions of each report will be generated.		ea	5	5 semi-annual reports for Years 1-5.	
	Annual Reports Prepare annual report at the end of each year that will provide comprehensive data evaluation and recommendations. Assume Draft and Final versions of each report.		ea	5	5 annual reports for Years 1-5	
	e) Meetings Attend yearly meeting with agencies to discuss results of groundwater monitoring program and recommendations	Agency meetings			See Parcel B for quantities associated with this task	
5.6	Well Abandonment/Extensions/ and Rehabilitation					Tasks to be completed by MACTEC as part of the ETCA
	•Well Abandonment 39 wells abandoned in two separate events.	Abandon wells	well	39	Navy has started well abandonment Includes PA35P01A.	
	•Well Rehabilitation Re-habilitate wells as necessary anticipating that some may become filled with sediment or other obstructions.	Redevelop wells as needed - 5 events - 3 wells per event	events	2	Number dependent on Navy's long-term monitoring plan Assume that one field event will be performed every 5 years to redevelop the wells (year 5 and 10)	
	•Well Extensions The potential requirement for well extensions will be assessed based upon the area of 2 foot cover	Well Extentions	well	38	Changed to 38 wells (11 wells monitoring program, 27 water level only) Does not include PA35P01A	

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
5.7	5-Year Reviews (2013 to 2043)				(1)	Task to be completed by MACTEC as part of the ETCA
	•Preparation of Five-Year Reviews	Reports	ea	2	Navy to complete in years 2013 and 2018. Next version would be due in 2023 which is beyond the 10 year time line. Minimal document support effort is expected for this task.	
5.8	Implementation of Institutional Controls				The duration for implementing ICs is expected to be in perpetuity in accordance with the LUCIP presented in the RD.	Task to be completed by MACTEC as part of the ETCA
		Enforce Deed Restrictions	ea	1	One LUCIP post RACR. Approach for update of LUCIP will be defined in the LUC RD.	
		Annual Inspections/Reporting	ea	1	Activities associated with the Pre-RACR and Post RACR RMP related inspections.	
		Risk Management Oversight	ea	1		
5.9	TPH Program					Task will be conducted by the Navy
6.0	Final Remedial Action Completion Report (RACR)					Tasks to be completed by MACTEC as part of the ETCA
	•Final Remedial Action and Site Closure documentation	Report	ea	1	The RACR has been budgeted as one report. However consideration has been given to the remedial components being completed at different times, which will necessitate submission of up to 4 possible addenda to the RACR for the major remedial components (Post-remedial soil gas survey, capping, groundwater monitoring).	The soil excavation RACR to be completed by the SFRA on the basis of the Navy Tech Memo (see WBS task 5.1)

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WBS Task / Subtask	Description	Scoping Item	Unit	Quantity	Notes	Remarks
7.0	Public Involvement					Tasks to be completed by MACTEC as part of the ETCA
7.1	•Updates to the Community Involvement Plan (C P)	Community Involvement Plan Updates	ea	0	No CIP is listed in the TSRS	
7.2	•Fact Sheets, and attendance of Citizen Advisory	Fact Sheets		15	2 fact sheets per yr for yrs 1-5 (10 fact sheets); 1 fact sheet per yr for yrs 6-10 (5 fact sheets). It's assumed that Fact Sheet printing and distribution will be performed by the SFRA.	
7.3	•Citizen Advisory Committee (CAC) meetings	CAC Meetings		20	2 meetings per yr for yrs 1-10	
8.0	Regulatory Oversight					Tasks to be managed by SFRA as per the ETCA and completed by the BCT as per the Amended FFA
		Estimated cost to be provided b the regulatory agencies.	TBD	TBD	Not Insurable. Paid directly to agencies by SFRA. (1)	
9.0	Insurance					Insurance to be procured by SFRA as specified in the ETCA
		Includes Cost Cap & PLL Insurance	TBD	TBD	(1) Coverage duration is expected to be 10 years; Additional groundwater remediation contingencies may be needed such as Lactate or Organo-Sulfur injections	
10.0	ETCA Administrative Support					Tasks to be completed by the SFRA as part of the ETCA
		SFRA ETCA Oversight	TBD	TBD	Not Insurable. '(1)	
11.0	Risk Assumption					Tasks to be completed by SFRA/Lennar/Mactec as defined in the ETCA
			TBD	TBD		

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Notes:

(1) Concurrent activity with Parcel B work.
ARIC = Area Requiring Institutional Controls
BCT = BRAC Cleanup Team
BRAC = Base Realignment and Closure
CAC = Citizen Advisory Committee
CAP = Corrective Action Plan
CIP = Community Involvement Plan
CRUP = Covenant to Restrict Use of Property
ea = Each
ETCA = Early Transfer Cooperative Agreement
GFPR = Guaranteed Fixed Price Remediation
HASP = Health & Safety Plan
IC = Institutional Controls
LUCs = Land Use Controls
LUCIP = Lanu Use Control Implementation Plan
M = Million
NA = Not Available
QAPP = Quality Assurance Project Plan
RA = Remedial Action
RACR = Remedial Action Completion Report
RD = Remedial Design
RAMP = Remedial Action Monitoring Plan
RAWP = Remedial Action Work Plan
RMP = Risk Management Procedures
ROD = Record of Decision
SAP = Sampling & Analysis Plan
SFRA = San Francisco Redevelopment Agency
SQL = Structured Query Language
TBD = To be determined
TO = Toxic Organic
TPH = Total Petroleum Hydrocarbons
TSRS = Technical Specifications and Requirements Statement
VOC = Volatile Organic Compound
WBS = Work Breakdown Structure
ZVI = Zero Valent Iron

(b) (5), (b) (4)

(b) (5)